ABSTRACT AND BIOGRAPHY

Ares I-X – The Integrated Master Schedule

As Ares I-X is a Test Flight to gain engineering data to inform the design of Ares I, it is also a Test Project to gain experience and knowledge to improve the management of Projects within the Constellation Program (CxP). This presentation will give the audience insight into an historic project as it communicates the lessons learned in developing and managing the Integrated Master Schedule (IMS).

NASA's first flight test for the agency's next-generation spacecraft and launch vehicle system is Ares I-X. Ares I-X will bring NASA one step closer to its exploration goals -- to return to the moon for more ambitious exploration of the lunar surface and to travel to Mars and destinations beyond. The flight test's primary objective is to demonstrate and collect key data on: roll and overall vehicle control; staging/separation; vehicle integration, assembly, and launch operations; and First Stage reentry dynamics for recovery. A very important secondary objective is to use Ares I-X to glean lessons learned for the CxP on managing a large, complex, multi-center NASA project.

This presentation will show how the Ares I-X Integrated Master Schedule was an effective proving ground for schedule development and management on a CxP project. The lessons learned were gained through successes and setbacks. During the project lessons were folded back into the management precepts of the IMS. This presentation will convey those precepts to give solutions to problems such as: how to manage schedule margin, at what level to integrate the IMS, and how to integrate a team of schedulers that worked for different companies at different NASA Centers. This presentation will also relay lessons learned as the CxP pilot test case of Primavera.

Keith Heitzman, PMP
Ares I-X Master Scheduler & Senior Project Management Specialist
MTS

Mr. Heitzman joined what became the Ares I-X team in the infancy of the project and was the Master Scheduler through project inception, SRR, PDR, CDR and most of manufacturing. At present he is the System Engineering and Integration Manager for the Michoud Assembly Facility (MAF) Manufacturing Support and Facilities Operations Contract (MSFOC).

Prior to his position as the Ares I-X Master Scheduler, Mr. Heitzman provided Project Controls support to several large engineer/construction projects. These projects included a facility to turn nuclear waste into glass logs for the US Department of Energy, a facility to incinerate nerve gas for the US Army Corps of Engineers, a new terminal for O'Hare Airport for the City of Chicago, and the management of the Kwajalein Missile Range for the US Army Space and Missile Defense Command. While working on the Kwajalein contract Mr. Heitzman managed the schedule for the SpaceX launch complex on Omelek Island.

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Mr. Heitzman earned a BS in Construction Engineering and Management for Purdue University which laid a strong foundation for a career in Project Controls and Project Management. He is a certified Project Management Professional (PMP) and was awarded the Gene Kranz “Made it Happen” award by the Ares Project for his scheduling support to the Ares I-X project.

Bruce Askins
Project Integration Manager for the Ares I-X test flight project
NASA Marshall Space Flight Center

Bruce Askins was named the Project Integration Manager for the Ares I-X test flight project in 2008. With this assignment, Mr. Askins assists in the overall management and development of the Ares I-X mission that is scheduled for launch in 2009. His work includes technical leadership of the multi-disciplinary team performing project integration and responsibility for the integrated mission products. Some of these functions include developing and maintaining the integrated master mission schedule, managing risk –including risk assessment and mitigation planning, and configuration and data management for system level documentation, data, hardware, and software.

Previously, Mr. Askins served in the Ares Flight & Integrated Test Office (FITO) as the Deputy Lead of the Structures, Environmental, and Vibration Test (SE&VT) area at Marshall Space Flight Center. In this position he focused on the successful development of test objectives, and negotiated test article hardware agreements. Mr. Askins helped develop work packages, the work breakdown structure, Task Plan, Implementation Plan, and Test Plan in support of the Integrated Vehicle Ground Vibration Test (IVGVT), a task under SE&VT. Mr. Askins also led the FITO and Ares I-X data management and export review team, which was primarily tasked as gatekeepers for graphics and information related to the Ares I-X mission and managing data for FITO in the Constellation Program’s data storage system, Windchill.

Prior to his work as a Deputy Lead, Mr. Askins served on a detail as IVGVT Assistant Lead & Ares I-X support in the FITO from 2006 to 2007. In this role, Mr. Askins worked with project management to assess issues and concerns for Ares I-X and Ares I testing. He helped coordinate the Ares I-X Systems Requirements Review and assisted the project with management of risk, requirements, cost, schedule, resources, technical interchange meetings, test article configuration and baselined IVGVT plans. During his detail, Mr. Askins also worked Ares I-X task that supported the Ares I-X Authority to Proceed, the Basis of Estimate definition, manpower, schedule, task definition/negotiation, mission planning and cost.

From 2005 to 2007, Mr. Askins served as a test engineer in the Structural Strength & Environmental Test Branch. Mr. Askins worked closely with the test engineers and test customers on implementation and test equipment design to meet specific test requirements. He served on the NASA Architecture team representing Test Lab, which was a study of options for NASA's missions returning to the moon and travel beyond. He also served as a procurement liaison and division export control officer, reviewing technical papers and presentations as well as arranging foreign national visits to Marshall Space Flight Center.

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From 1987 to 2005 Mr. Askins worked as a Mechanical Engineer in Marshall's Special Test Equipment (STE) Design Branch. He was responsible for conceptualizing, developing, analyzing, coordinating and executing unique and complex design projects as well as developing state-of-the-art design techniques to facilitate mission critical programs. Mr. Askins was also responsible for flight test hardware development supporting Shuttle, the International Spaces Station, the Hubble telescope and the Chandra observatory. He has specialized experience in cryogenic fluid system design, vacuum system design, propellant delivery systems and flight hardware simulation for crew training in a neutrally buoyant environment where he also worked as a NASA safety & utility diver from 1988 to 2000.

From 1981 to 1987 Mr. Askins worked at the Marshall Center as an Engineering Co-op Student in the STD Design Branch and a Welding Technician in the Test Lab. Here he designed, analyzed and drew in an engineering drawing CAD system in support of tests for many NASA programs and projects. As a Welding Technician, his responsibilities included support of the tests performing welding of pipe and structural included in the 6.4 % Shuttle testing and drop tube testing.

Mr. Askins' work at NASA has earned him numerous commendations for outstanding performance and various achievement recognition awards from NASA, including Marshall Space Flight Center Director's Commendation, several Special Service Awards and the NASA Silver Snoopy award.

Mr. Askins earned a bachelor's degree in 1987 in Mechanical Engineering from the University of Alabama in Huntsville.

Mr. Askins, a native of Fort Rucker, Ala. is married to Lisa Askins, of Huntsville, Ala. They live in Madison, Ala. with their daughter, Lauren. Mr. Askins is also a BSA Eagle Scout with all three palms.